A. Kubela
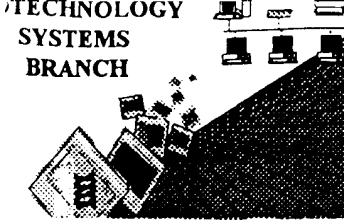
RAW SEQUENCE LISTING
ERROR REPORT

#18

The Biotechnology Systems Branch of the Scientific and Technical Information
Center (STIC) detected errors when processing the following computer readable
form:

Application Serial Number: *09/661,016A*
Source: *1600 RUSH*
Date Processed by STIC: *7/21/2003*

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE**
   APPLICANT, WITH A NOTICE TO COMPLY or,
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A**
   NOTICE TO COMPLY
FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT
MARK SPENCER, 703-308-4212.

TO **REDUCE** ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER**
VERSION 4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
   http://www.uspto.gov/web/offices/pac/checker

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is
a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the
United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<**http://www.uspto.gov/ebc/efs/downloads/documents.htm**> , **EFS Submission**
   User Manual - ePAVE)
2. **U.S. Postal Service:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. **Hand Carry directly to:**
   U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name,
   Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
           Or
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two,
   2011 South Clark Place, Arlington, VA 22202
4. **Federal Express, United Parcel Service,** or other delivery service to: U.S. Patent and Trademark Office,
   Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 04/24/2003

‖‖‖‖‖‖‖‖‖‖‖‖

1600

RAW SEQUENCE LISTING   DATE: 07/21/2003
PATENT APPLICATION: US/09/661,016A   TIME: 14:07:36

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

4 <110> APPLICANT: Van Mellaert, Herman
5   Botterman, Johan
6   Van Rie, Jeroen
7   Joos, Henk
9 <120> TITLE OF INVENTION: RECOMBINANT PLANT EXPRESSING NON-COMPETITIVELY BINDING Bt
INSECTICIDAL
10   CRYSTAL PROTEINS
11 <130> FILE REFERENCE: 021565-079

W--> 13 <140> CURRENT APPLICATION NUMBER: 09/661,061A
OK> 15 <141> CURRENT FILING DATE: 2000-09-13
17 <150> PRIOR APPLICATION NUMBER: PCT/EP90/00905
18 <151> PRIOR FILING DATE: 1990-05-30
20 <150> PRIOR APPLICATION NUMBER: GB 89401499.2
21 <151> PRIOR FILING DATE: 1989-05-31
E--> 23 <160> NUMBER OF SEQ ID NOS: ⑧ *10 (supp 7,12)*
25 <170> SOFTWARE: PatentIn Ver. 2.0

pp 1,4,7,12

IMPORTANT: Please save file in ASCII text, as required by Sequence Rules

Does N.. ..omply
Correc.. ...Date Needed

ERRORED SEQUENCES

399 <210> SEQ ID NO: 6
300 <211> LENGTH: 1168
340 <212> TYPE: PRT
343 <213> ORGANISM: Bacillus thuringiensis   *p.4*
340 <400> SEQUENCE: 6
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399 Asn Pro Lys Glu Ile Ile Leu Gly Glu Glu Arg Leu Glu Thr Gly Asn
401   20   25   30
403 Thr Val Ala Asp Ile Ser Leu Gly Leu Ile Asn Phe Leu Tyr Ser Asn
404   35   40   45
405 Phe Val Pro Gly Gly Gly Phe Ile Val Gly Leu Leu Glu Leu Ile Trp
407   50   55   60
404 Gly Phe Ile Gly Pro Ser Gln Trp Asp Ile Phe Leu Ala Gln Ile Glu
411   65   70   75   80
411 Gln Leu Ile Ser Gln Arg Ile Glu Glu Phe Ala Arg Asn Gln Ala Ile
413   85   90   95
413 Ser Arg Leu Glu Gly Leu Ser Asn Leu Tyr Lys Val Tyr Val Arg Ala
414   100   105   110
406 Ile Ser Asp Trp Glu Lys Asp Pro Thr Asn Pro Ala Leu Arg Glu Glu
403   115   120   125
401 Met Arg Ile Gln Phe Asn Asp Met Asn Ser Ala Leu Ile Thr Ala Ile
402   130   135   140
404 Pro Leu Phe Arg Val Gln Asn Tyr Glu Val Ala Leu Leu Ser Val Tyr

RAW SEQUENCE LISTING   DATE: 07/21/2003
PATENT APPLICATION: US/09/661,016A   TIME: 14:07:37

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

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437 Val Gln Ala Ala Asn Leu His Leu Ser Ile Leu Arg Asp Val Ser Val
438                   165                   170                   175
442 Phe Gly Glu Arg Trp Gly Tyr Asp Thr Ala Thr Ile Asn Asn Arg Tyr
443                   180                   185                   190
444 Ser Asp Leu Thr Ser Leu Ile His Val Tyr Thr Asn His Cys Val Asp
446                   195                   200                   205
449 Thr Tyr Asn Gln Gly Leu Arg Arg Leu Glu Gly Arg Phe Leu Ser Asp
433                   210                   215                   220
443 Trp Ile Val Tyr Asn Arg Phe Arg Arg Gln Leu Thr Ile Ser Val Leu
441 225                   230                   235                   240
444 Asp Ile Val Ala Phe Phe Pro Asn Tyr Asp Ile Arg Thr Tyr Pro Ile
441                   245                   250                   255
447 Gln Thr Ala Thr Gln Leu Thr Arg Glu Val Tyr Leu Asp Leu Pro Phe
449                   260                   265                   270
450 Ile Asn Gln Asn Leu Ser Pro Ala Ala Ser Tyr Pro Thr Phe Ser Ala
451                   275                   280                   285
453 Ala Glu Ser Ala Ile Ile Arg Ser Pro His Leu Val Asp Phe Leu Asn
454 290                   295                   300
456 Ser Phe Thr Ile Tyr Thr Asp Ser Leu Ala Arg Tyr Ala Tyr Trp Gly
457 305                   310                   315                   320
459 Gly His Leu Val Asn Ser Phe Arg Thr Gly Thr Thr Thr Asn Leu Ile
460                   325                   330                   335
461 Arg Ser Pro Leu Tyr Gly Arg Glu Gly Asn Thr Glu Arg Pro Val Thr
462                   340                   345                   350
465 Ile Thr Ala Ser Pro Ser Val Pro Ile Phe Arg Thr Leu Ser Tyr Ile
466                   355                   360                   365
468 Thr Gly Leu Asp Asn Ser Asn Pro Val Ala Gly Ile Glu Gly Val Glu
469 370                   375                   380
471 Phe Gln Asn Thr Ile Ser Arg Ser Ile Tyr Arg Lys Ser Gly Pro Ile
472 385                   390                   395                   400
474 Asp Ser Phe Ser Glu Leu Pro Pro Gln Asp Ala Ser Val Ser Pro Ala
475                   405                   410                   415
477 Ile Gly Tyr Ser His Arg Leu Cys His Ala Thr Phe Leu Glu Arg Ile
479                   420                   425                   430
480 Ser Gly Pro Arg Ile Ala Gly Thr Val Phe Ser Trp Thr His Arg Ser
481                   435                   440                   445
483 Ala Ser Pro Thr Asn Glu Val Ser Pro Ser Arg Ile Thr Gln Ile Pro
484                   450                   455                   460
486 Trp Val Lys Ala His Thr Leu Ala Ser Gly Ala Ser Val Ile Lys Gly
487 465                   470                   475                   480
489 Pro Gly Phe Thr Gly Gly Asp Ile Leu Thr Arg Asn Ser Met Gly Glu
491                   485                   490                   495
493 Leu Gly Thr Leu Arg Val Thr Phe Thr Gly Arg Leu Pro Gln Ser Tyr
494                   500                   505                   510
496 Tyr Ile Arg Phe Arg Tyr Ala Ser Val Ala Asn Arg Ser Gly Thr Phe
498                   515                   520                   525
499 Arg Tyr Ser Gln Pro Pro Ser Tyr Gly Ile Ser Phe Pro Lys Thr Met
499 530                   535                   540
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RAW SEQUENCE LISTING   DATE: 07/21/2003
PATENT APPLICATION: US/09/661,016A   TIME: 14:07:37

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

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516         565            570                575
505 Ile Gln Ser Gly Val Tyr Ile Asp Arg Ile Glu Phe Ile Pro Val Thr
508         580            595                590
510 Ala Thr Phe Glu Ala Glu Tyr Asp Leu Glu Arg Ala Gln Lys Val Val
511         595            600                605
513 Asn Ala Leu Phe Thr Ser Thr Asn Gln Leu Gly Leu Lys Thr Asp Val
514     610            615            620
516 Thr Asp Tyr His Ile Asp Gln Val Ser Asn Leu Val Ala Cys Leu Ser
517 625            630                635                640
518 Asp Glu Phe Cys Leu Asp Glu Lys Arg Glu Leu Ser Glu Lys Val Lys
519         645                650                655
521 His Ala Lys Arg Leu Ser Asp Glu Arg Asn Leu Leu Gln Asp Pro Asn
522         660            665                670
524 Phe Arg Gly Ile Asn Arg Gln Pro Asp Arg Gly Trp Arg Gly Ser Thr
526         675            680                685
527 Asp Ile Thr Ile Gln Gly Gly Asp Asp Val Phe Lys Glu Asn Tyr Val
529     690            695                700
531 Thr Leu Pro Gly Thr Phe Asp Glu Cys Tyr Pro Thr Tyr Leu Tyr Gln
532 705            710                715                720
534 Lys Ile Asp Glu Ser Lys Leu Lys Ala Tyr Thr Arg Tyr Gln Leu Arg
535             725            730                735
537 Gly Tyr Ile Glu Asp Ser Gln Asp Leu Glu Ile Tyr Leu Ile Arg Tyr
538         740            745                750
540 Asn Ala Lys His Glu Ile Val Asn Val Pro Gly Thr Gly Ser Leu Trp
541         755            760                765
543 Pro Leu Ser Val Glu Asn Gln Ile Gly Pro Cys Gly Glu Pro Asn Arg
544     770            775                780
546 Cys Ala Pro His Leu Glu Trp Asn Pro Asp Leu His Cys Ser Cys Arg
547 785            790                795                800
549 Asp Gly Glu Lys Cys Ala His His Ser His His Phe Ser Leu Asp Ile
550             805            810                815
552 Asp Val Gly Cys Thr Asp Leu Asn Glu Asp Leu Gly Val Trp Val Ile
553         810            815                830
555 Phe Lys Ile Lys Thr Gln Asp Gly His Ala Arg Leu Gly Asn Leu Glu
556         835            840                845
558 Phe Leu Glu Glu Lys Pro Leu Leu Gly Glu Ala Leu Ala Arg Val Lys
559     850            855            860
561 Arg Ala Glu Lys Lys Trp Arg Asp Lys Arg Glu Thr Leu Gln Leu Glu
562 865            870                875                880
564 Thr Thr Ile Val Tyr Lys Glu Ala Lys Glu Ser Val Asp Ala Leu Phe
565             845            890                895
567 Val Asn Ser Gln Tyr Asp Arg Leu Gln Ala Asp Thr Asn Ile Ala Met
568         900            905                910
570 Ile His Ala Ala Asp Lys Arg Val His Arg Ile Arg Glu Ala Tyr Leu
571         915            920                925
572 Pro Glu Leu Ser Val Ile Pro Gly Val Asn Ala Ala Ile Phe Glu Glu
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/661,016A

DATE: 07/21/2003
TIME: 14:07:37

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

```
574      930                        935                    940
586 Leu Glu Glu Arg Ile Phe Thr Ala Phe Ser Leu Tyr Asp Ala Arg Asn
587 945                   950                  955                   960
588 Ile Ile Lys Asn Gly Asp Phe Asn Asn Gly Leu Leu Cys Trp Asn Val
589                 965                  970                  975
591 Lys Gly His Val Glu Val Glu Glu Gln Asn Asn His Arg Ser Val Leu
593              980                  985                  990
585 Val Ile Pro Glu Trp Glu Ala Glu Val Ser Gln Glu Val Arg Val Cys
596               995                  1000                 1005
588 Pro Gly Arg Gly Tyr Ile Leu Arg Val Thr Ala Tyr Lys Glu Gly Tyr
589       1010                 1015                 1010
591 Gly Glu Gly Cys Val Thr Ile His Glu Ile Glu Asn Asn Thr Asp Glu
E--> 592 (025)/1025          1030                 1035                 1040
593 Leu Lys Phe Asn Asn Cys Val Glu Glu Glu Val Tyr Pro Asn Asn Thr
595                 1045                 1050                 1055
596 Val Thr Cys Ile Asn Tyr Thr Ala Thr Gln Glu Glu Tyr Glu Gly Thr
597        1060                 1065                 1070
599 Tyr Thr Ser Arg Asn Arg Gly Tyr Asp Glu Ala Tyr Gly Asn Asn Pro
600       1075                 1080                 1085
602 Ser Val Pro Ala Asp Tyr Ala Ser Val Tyr Glu Glu Lys Ser Tyr Thr
603       1090                 1095                 1100
605 Asp Arg Arg Arg Glu Asn Pro Cys Glu Ser Asn Arg Gly Tyr Gly Asp
E--> 606 (105)/1105          1110                 1115                 1120
608 Tyr Thr Pro Leu Pro Ala Gly Tyr Val Thr Lys Glu Leu Glu Tyr Phe
609              1125                 1130                 1135
611 Pro Glu Thr Asp Lys Val Trp Ile Glu Ile Gly Glu Thr Glu Gly Thr
612              1140                 1145                 1150
614 Phe Ile Val Asp Ser Val Glu Leu Leu Leu Met Glu Glu
615       1155                 1160                 1165
949 <210> SEQ ID NO: 8
950 <211> LENGTH: 1189
951 <212> TYPE: PRT
952 <213> ORGANISM: Bacillus thuringiensis
955 <400> SEQUENCE: 8
956 Met Glu Glu Asn Asn Gln Asn Gln Cys Ile Pro Tyr Asn Cys Leu Ser
957     1             5                  10                   15
959 Asn Pro Glu Glu Val Leu Leu Asp Gly Glu Arg Ile Ser Thr Gly Asn
960                   20                  25                   30
962 Ser Ser Ile Asp Ile Ser Leu Ser Leu Val Gln Phe Met Val Ser Asn
963          35                  40                   45
965 Phe Val Pro Gly Gly Gly Phe Leu Val Gly Leu Ile Asp Phe Val Trp
966     50                  55                   60
968 Gly Ile Val Gly Pro Ser Gln Trp Asp Ala Phe Leu Val Gln Ile Glu
969     65                  70                  75                   80
971 Gln Leu Ile Asn Glu Arg Ile Ala Glu Phe Ala Arg Asn Ala Ala Ile
972                  85                  90                   95
974 Ala Asn Leu Glu Gly Leu Glu Asn Asn Leu Asn Ile Tyr Val Glu Ala
975              100                 105                  110
977 Phe Lys Glu Trp Glu Glu Asp Pro Asn Asn Pro Glu Thr Arg Thr Arg
```

p.7

(Handwritten marginal note:)

ok

When numbering first amino acid on a line, please begin number directly under first letter of amino acid

e.g. Gly |s|p|c|e| Glu
     1025

Last number on lines are positioned correctly

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/661,016A

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

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978         115                    120                    125
980 Val Ile Asp Arg Phe Arg Ile Leu Asp Gly Leu Leu Glu Arg Asp Ile
981         130                    135                    140
982 Pro Ser Phe Arg Ile Ser Gly Phe Glu Val Pro Leu Leu Ser Val Tyr
983 145                    150                    155                    160
985 Ala Gln Ala Ala Asn Leu His Leu Ala Ile Leu Arg Asp Ser Val Ile
987                    165                    170                    175
989 Phe Gly Glu Arg Trp Gly Leu Thr Thr Ile Asn Val Asn Glu Asn Tyr
990                    180                    185                    190
992 Asn Arg Leu Ile Arg His Ile Asp Glu Tyr Ala Asp His Cys Ala Asn
993         195                    200                    205
995 Thr Tyr Asn Arg Gly Leu Asn Asn Leu Pro Lys Ser Thr Tyr Gln Asp
996         210                    215                    220
998 Trp Ile Thr Tyr Asn Arg Leu Arg Arg Asp Leu Thr Leu Thr Val Leu
999 225                    230                    235                    240
1001 Asp Ile Ala Ala Phe Phe Pro Asn Tyr Asp Asn Arg Arg Tyr Pro Ile
1002                    245                    250                    255
1004 Gln Pro Val Gly Gln Leu Thr Arg Glu Val Tyr Thr Asp Pro Leu Ile
1005         260                    265                    270
1007 Asn Phe Asn Pro Gln Leu Gln Ser Val Ala Gln Leu Pro Thr Phe Asn
1008         275                    280                    285
1010 Val Met Glu Ser Ser Ala Ile Arg Asn Pro His Leu Phe Asp Ile Leu
1011         290                    295                    300
1013 Asn Asn Leu Thr Ile Phe Thr Asp Trp Phe Ser Val Gly Arg Asn Phe
1014 305                    310                    315                    320
1016 Tyr Trp Gly Gly His Arg Val Ile Ser Ser Leu Ile Gly Gly Gly Asn
1017                    325                    330                    335
1019 Ile Thr Ser Pro Ile Tyr Gly Arg Glu Ala Asn Gln Glu Pro Pro Arg
1020                    340                    345                    350
1022 Ser Phe Thr Phe Asn Gly Pro Val Phe Arg Thr Leu Ser Asn Pro Thr
1023         355                    360                    365
1025 Leu Arg Leu Leu Gln Gln Pro Trp Pro Ala Pro Pro Phe Asn Leu Arg
1026         370                    375                    380
1028 Gly Val Glu Gly Val Glu Phe Ser Thr Pro Thr Asn Ser Phe Thr Tyr
1029 385                    390                    395                    400
1031 Arg Gly Arg Gly Thr Val Asp Ser Leu Thr Glu Leu Pro Pro Glu Asp
1032                    405                    410                    415
1034 Asn Ser Val Pro Pro Arg Glu Gly Tyr Ser His Arg Leu Cys His Ala
1035                    420                    425                    430
1037 Thr Phe Val Gln Arg Ser Gly Thr Pro Phe Leu Thr Thr Gly Val Val
1038         435                    440                    445
1040 Phe Ser Trp Thr His Arg Ser Ala Thr Leu Thr Asn Thr Ile Asp Pro
1041         450                    455                    460
1043 Glu Arg Ile Asn Gln Ile Pro Leu Val Lys Gly Phe Arg Val Trp Gly
1044 465                    470                    475                    480
1046 Gly Thr Ser Val Ile Thr Gly Pro Gly Phe Thr Gly Gly Asp Ile Leu
1047                    485                    490                    495
1049 Arg Arg Asn Thr Phe Gly Asp Phe Val Ser Leu Gln Val Asn Ile Asn
1050         500                    505                    510
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/661,016A

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

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1053          515               520               525
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1056      530               535               540
1058 Gly Gly Gln Val Ser Val Asn Met Pro Leu Gln Lys Thr Met Glu Ile
1059 545               550               555               560
1061 Gly Glu Asn Leu Thr Ser Arg Thr Phe Arg Tyr Thr Asp Phe Ser Asn
1062               565               570               575
1064 Pro Phe Ser Phe Arg Ala Asn Pro Asp Ile Ile Gly Ile Ser Glu Gln
1065               580               585               590
1067 Pro Leu Phe Gly Ala Gly Ser Ile Ser Ser Gly Glu Leu Tyr Ile Asp
1068               595               600               605
1070 Lys Ile Glu Ile Ile Leu Ala Asp Ala Thr Phe Glu Ala Glu Ser Asp
1071      610               615               620
1073 Leu Glu Arg Ala Gln Lys Ala Val Asn Ala Leu Phe Thr Ser Ser Asn
1074 625               630               635               640
1076 Gln Ile Gly Leu Lys Thr Asp Val Thr Asp Tyr His Ile Asp Gln Val
1077               645               650               655
1079 Ser Asn Leu Val Asp Cys Leu Ser Asp Glu Phe Cys Leu Asp Glu Lys
1080          660               665               670
1082 Arg Glu Leu Ser Glu Lys Val Lys His Ala Lys Arg Leu Ser Asp Glu
1083          675               680               685
1085 Arg Asn Leu Leu Gln Asp Pro Asn Phe Arg Gly Ile Asn Arg Gln Pro
1086      690               695               700
1088 Asp Arg Gly Trp Arg Gly Ser Thr Asp Ile Thr Ile Gln Gly Gly Asp
1089 705               710               715               720
1091 Asp Val Phe Lys Glu Asn Tyr Val Thr Leu Pro Gly Thr Val Asp Glu
1092               725               730               735
1094 Cys Tyr Pro Thr Tyr Leu Tyr Gln Lys Ile Asp Glu Ser Lys Leu Lys
1095               740               745               750
1097 Ala Tyr Thr Arg Tyr Glu Leu Arg Gly Tyr Ile Glu Asp Ser Gln Asp
1098               755               760               765
1100 Leu Glu Ile Tyr Leu Ile Arg Tyr Asn Ala Lys His Glu Ile Val Asn
1101      770               775               780
1103 Val Pro Gly Thr Gly Ser Leu Trp Pro Leu Ser Ala Gln Ser Pro Ile
1104 785               790               795               800
1106 Gly Lys Cys Gly Glu Pro Asn Arg Cys Ala Pro His Leu Glu Trp Asn
1107               805               810               815
1109 Pro Asp Leu Asp Cys Ser Cys Arg Asp Gly Glu Lys Cys Ala His His
1110          820               825               830
1112 Ser His His Phe Thr Leu Asp Ile Asp Val Gly Cys Thr Asp Leu Asn
1113          835               840               845
1115 Glu Asp Leu Gly Val Trp Val Ile Phe Lys Ile Lys Thr Gln Asp Gly
1116          850               855               860
1117 His Ala Arg Leu Gly Asn Leu Glu Phe Leu Glu Glu Lys Pro Leu Leu
1118 865               870               875               880
1120 Gly Glu Ala Leu Ala Arg Val Lys Arg Ala Glu Lys Lys Trp Arg Asp
1121               885               890               895
1124 Lys Arg Glu Lys Leu Gln Leu Glu Thr Asn Ile Val Tyr Lys Glu Ala
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RAW SEQUENCE LISTING   DATE: 07/21/2003
PATENT APPLICATION: US/09/661,016A   TIME: 14:07:37

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

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1125            900              905              910
1127 Lys Glu Ser Val Asp Ala Leu Phe Val Asn Ser Gln Tyr Asp Arg Leu
1129       915              920              925
1130 Gln Val Asp Thr Asn Ile Ala Met Ile His Ala Ala Asp Lys Arg Val
1132       930              935              940
1132 His Arg Ile Arg Glu Ala Tyr Leu Pro Glu Leu Ser Val Ile Pro Gly
1134 945              950              955              960
1136 Val Asn Ala Ala Ile Phe Glu Glu Leu Glu Gly Arg Ile Phe Thr Ala
1137            965              970              975
1139 Tyr Ser Leu Tyr Asp Ala Arg Asn Val Ile Lys Asn Gly Asp Phe Asn
1140            980              985              990
1142 Asn Gly Leu Leu Cys Trp Asn Val Lys Gly His Val Asp Val Glu Glu
1143       995              1000             1005
1145 Gln Asn Asn His Arg Ser Val Leu Val Ile Pro Glu Trp Glu Ala Glu
1146    1010             1015             1020
1148 Val Ser Gln Glu Val Arg Val Cys Pro Gly Arg Gly Tyr Ile Leu Arg
E--> 1149 025             1030             1035             1040
1151 Val Thr Ala Tyr Lys Glu Gly Tyr Gly Glu Gly Cys Val Thr Ile His
1152            1045             1050             1055
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1155       1060             1065             1070
1157 Glu Glu Val Tyr Pro Asn Asn Thr Val Thr Cys Asn Asn Tyr Thr Gly
1158       1075             1080             1085
1160 Thr Gln Glu Glu Tyr Glu Gly Thr Tyr Thr Ser Arg Asn Gln Gly Tyr
1161    1090             1095             1100
1163 Asp Glu Ala Tyr Gly Asn Asn Pro Ser Val Pro Ala Asp Tyr Ala Ser
E--> 1164 105             1110             1115             1120
1166 Val Tyr Glu Glu Lys Ser Tyr Thr Asp Gly Arg Arg Glu Asn Pro Cys
1167       1125             1130             1135
1169 Glu Ser Asn Arg Gly Tyr Gly Asp Tyr Thr Pro Leu Pro Ala Gly Tyr
1170       1140             1145             1150
1172 Val Thr Lys Asp Leu Glu Tyr Phe Pro Glu Thr Asp Lys Val Trp Ile
1173       1155             1160             1165
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1176    1170             1175             1180
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E--> 1179 185
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1184 <212> TYPE: DNA
1185 <213> ORGANISM: Bacillus thuringiensis
1187 <220> FEATURE:
1188 <221> NAME/KEY: CDS
1189 <222> LOCATION: (1)..(3687)
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1196 1              5              10             15
1198 aat aat tcg gca caa atg gat cta tta cca gat gct cgt att gag gat   96
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same errors as previous pages

This appeared directly after Sequence 8

RAW SEQUENCE LISTING　　　　　DATE: 07/21/2003
PATENT APPLICATION:　US/09/661,016A　　TIME: 14:07:37

Input Set : **A:\pto.amc.txt**
Output Set: **N:\CRF4\07212003\I661016A.raw**

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1200 agc ttg tgt ata gcc gag ggc aac aat att gat cca ttt gtt agc gca    144
1201 Ser Leu Cys Ile Ala Glu Gly Asn Asn Ile Asp Pro Phe Val Ser Ala
1202          35                    40                    45
1204 tca aca gtc caa acg ggt att aac ata gct ggt aga ata cta ggc gta    192
1205 Ser Thr Val Gln Thr Gly Ile Asn Ile Ala Gly Arg Ile Leu Gly Val
1206          50                    55                    60
1208 ttg ggc gta ccg ttt gct gga caa cta gct agt ttt tat agt ttt ctt    240
1209 Leu Gly Val Pro Phe Ala Gly Gln Leu Ala Ser Phe Tyr Ser Phe Leu
1210 65                    70                    75                    80
1211 gtt ggt gaa tta tgg ccc cgc ggc aga gat cag tgg gaa att ttc cta    288
1213 Val Gly Glu Leu Trp Pro Arg Gly Arg Asp Gln Trp Glu Ile Phe Leu
1214          85                    90                    95
1216 gaa cat gtc gaa caa ctt ata aat caa caa ata aca gaa aat gct agg    336
1217 Glu His Val Glu Gln Leu Ile Asn Gln Gln Ile Thr Glu Asn Ala Arg
1218          100                   105                   110
1220 aat acg gct ctt gct aga tta caa ggt tta gga gat tcc ttc aga gcc    384
1221 Asn Thr Ala Leu Ala Arg Leu Gln Gly Leu Gly Asp Ser Phe Arg Ala
1222          115                   120                   125
1224 tat caa cag tca ctt gaa gat tgg cta gaa aac cgt gat gat gca aga    432
1225 Tyr Gln Gln Ser Leu Glu Asp Trp Leu Glu Asn Arg Asp Asp Ala Arg
1226          130                   135                   140
1228 acg aga agt gtt ctt cat acc caa tat ata gct tta gaa ctt gat ttt    480
1229 Thr Arg Ser Val Leu His Thr Gln Tyr Ile Ala Leu Glu Leu Asp Phe
1230 145                   150                   155                   160
1232 ctt aat gcg atg ccg ctt ttc gca att aga aac caa gaa gtt cca tta    528
1233 Leu Asn Ala Met Pro Leu Phe Ala Ile Arg Asn Gln Glu Val Pro Leu
1234          165                   170                   175
1236 ttg atg gta tat gct caa gct gaa aat tta cac cta tta tta ttg aga    576
1237 Leu Met Val Tyr Ala Gln Ala Ala Asn Leu His Leu Leu Leu Leu Arg
1238          180                   185                   190
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1241 Asp Ala Ser Leu Phe Gly Ser Glu Phe Gly Leu Thr Ser Gln Glu Ile
1242          195                   200                   205
1244 caa cgt tat tat gag cgc caa gtg gaa cga acg aga gat tat tcc gac    672
1245 Gln Arg Tyr Tyr Glu Arg Gln Val Glu Arg Thr Arg Asp Tyr Ser Asp
1246          210                   215                   220
1248 tat tgc gta gaa tgg tat aat aca ggt cta aat agc ttg aga ggg aca    720
1249 Tyr Cys Val Glu Trp Tyr Asn Thr Gly Leu Asn Ser Leu Arg Gly Thr
1250 215                   230                   235                   240
1252 aat gcc gca agt tgg gta cgg tat aat caa ttc cgt ata gat cta acg    768
1253 Asn Ala Ala Ser Trp Val Arg Tyr Asn Gln Phe Arg Arg Asp Leu Thr
1254          245                   250                   255
1256 tta gga gta tta gat cta gtg gca cta ttc cca agc tat gac act cgc    816
1257 Leu Gly Val Leu Asp Leu Val Ala Leu Phe Pro Ser Tyr Asp Thr Arg
1258          260                   265                   270
1260 act tat cca ata aat acg agt gct cag tta aca aga gaa gtt tat aca    864
1261 Thr Tyr Pro Ile Asn Thr Ser Ala Gln Leu Thr Arg Glu Val Tyr Thr
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/661,016A

DATE: 07/21/2003
TIME: 14:07:37

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

```
1062        275               280               285
1164 gac gca att gga gca aca ggg gta aat atg gca agt atg aat tgg tat        912
1165 Asp Ala Ile Gly Ala Thr Gly Val Asn Met Ala Ser Met Asn Trp Tyr
1166      290               295               300
1168 aat aat aat gca cct tcg ttc tct gcc ata gag gct gcg gct atc cga        960
1169 Asn Asn Asn Ala Pro Ser Phe Ser Ala Ile Glu Ala Ala Ala Ile Arg
1170 305               310               315               320
1172 agc ccg cat cta ctt gat ttt cta gaa caa ctt aca att ttt agc gct       1008
1173 Ser Pro His Leu Leu Asp Phe Leu Glu Gln Leu Thr Ile Phe Ser Ala
1174                325               330               335
1176 tca tca cga tgg agt aat act agg cat atg act tat tgg cgg ggc cac       1056
1177 Ser Ser Arg Trp Ser Asn Thr Arg His Met Thr Tyr Trp Arg Gly His
1178                340               345               350
1180 acg att caa tct cgg cca ata gga ggc gga tta aat acc tca acg cat       1104
1181 Thr Ile Gln Ser Arg Pro Ile Gly Gly Gly Leu Asn Thr Ser Thr His
1182                355               360               365
1184 ggg gct acc aat act tct att aat cct gta aca tta agg ttc gca tct       1152
1185 Gly Ala Thr Asn Thr Ser Ile Asn Pro Val Thr Leu Arg Phe Ala Ser
1186      370               375               380
1188 cga gac gtt tat agg act gaa tca tat gca gga gtg ctt cta tgg gga       1200
1189 Arg Asp Val Tyr Arg Thr Glu Ser Tyr Ala Gly Val Leu Leu Trp Gly
1190 385               390               395               400
1192 att tac ctt gaa cct att cat ggt gtc cct act gtt agg ttt aat ttt       1248
1193 Ile Tyr Leu Glu Pro Ile His Gly Val Pro Thr Val Arg Phe Asn Phe
1194                405               410               415
1196 acg aac cct cag aat att tct gat aga ggt acc gct aac tat agt caa       1296
1197 Thr Asn Pro Gln Asn Ile Ser Asp Arg Gly Thr Ala Asn Tyr Ser Gln
1198      420               425               430
1200 cct tat gag tca cct gga ctt caa tta aaa gat tca gaa act gaa tta       1344
1201 Pro Tyr Glu Ser Pro Gly Leu Gln Leu Lys Asp Ser Glu Thr Glu Leu
1302      435               440               445
1304 cca cca gaa aca aca gaa cga cca aat tat gaa tct tac agt cac agg       1392
1305 Pro Pro Glu Thr Thr Glu Arg Pro Asn Tyr Glu Ser Tyr Ser His Arg
1306      450               455               460
1308 tta tct cat ata ggt ata att tta caa tcc agg gtg aat gta ccg gta       1440
1309 Leu Ser His Ile Gly Ile Ile Leu Gln Ser Arg Val Asn Val Pro Val
1310 465               470               475               480
1312 tat tct tgg acg cat cgt agt gca gat cgt acg aat acg att gga cca       1488
1313 Tyr Ser Trp Thr His Arg Ser Ala Asp Arg Thr Asn Thr Ile Gly Pro
1314                485               490               495
1316 aat aga atc acc caa atc cca atg gta aaa gca tcc gaa ctt cct caa       1536
1317 Asn Arg Ile Thr Gln Ile Pro Met Val Lys Ala Ser Glu Leu Pro Gln
1318      500               505               510
1320 ggt acc act gtt gtt aga gga cca gga ttt act ggt gtg gat att ctt       1584
1321 Gly Thr Thr Val Val Arg Gly Pro Gly Phe Thr Gly Gly Asp Ile Leu
1322      515               520               525
1324 cga aga acg aat act ggt gga ttt gga ccg ata aga gta act gtt aac       1632
1325 Arg Arg Thr Asn Thr Gly Gly Phe Gly Pro Ile Arg Val Thr Val Asn
1326      530               535               540
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/661,016A

Input Set : **A:\pto.amc.txt**
Output Set: **N:\CRF4\07212003\I661016A.raw**

```
1328 gga cca tta aca caa aga tat cgt ata gga ttc cgc tat gct tca act     1680
1329 Gly Pro Leu Thr Gln Arg Tyr Arg Ile Gly Phe Arg Tyr Ala Ser Thr
1330 545                   550                   555                   560
1332 gta gat ttt gat ttc ttt gta tca cgt gga ggt act act gta aat aat     1728
1333 Val Asp Phe Asp Phe Phe Val Ser Arg Gly Gly Thr Thr Val Asn Asn
1334                       565               570                   575
1336 ttt aga ttc cta cgt aca atg aac agt gga gac gaa cta aaa tac gga     1776
1337 Phe Arg Phe Leu Arg Thr Met Asn Ser Gly Asp Glu Leu Lys Tyr Gly
1338             580                   585                   590
1340 aat ttt gtg aga cgt gct ttt act aca cct ttt act ttt aca caa att     1824
1341 Asn Phe Val Arg Arg Ala Phe Thr Thr Pro Phe Thr Phe Thr Gln Ile
1342         595                   600                   605
1344 caa gat ata att cga acg tct att caa ggc ctt agt gga aat ggg gaa     1872
1345 Gln Asp Ile Ile Arg Thr Ser Ile Gln Gly Leu Ser Gly Asn Gly Glu
1346     610                   615                   620
1348 gtg tat ata gat aaa att gaa att att cca gtt act gca acc ttc gaa     1920
1349 Val Tyr Ile Asp Lys Ile Glu Ile Ile Pro Val Thr Ala Thr Phe Glu
1350 625                   630                   635                   640
1352 gca gaa tat gat tta gaa aga gcg caa gag gcg gtg aat gct ctg ttt     1968
1353 Ala Glu Tyr Asp Leu Glu Arg Ala Gln Glu Ala Val Asn Ala Leu Phe
1354                   645                   650                   655
1356 act aat acg aat cca aga aga ttg aaa aca gat gtg aca gat tat cat     2016
1357 Thr Asn Thr Asn Pro Arg Arg Leu Lys Thr Asp Val Thr Asp Tyr His
1358                   660                   665                   670
1360 att gat caa gta tcc aat tta gtg gcg tgt tta tcg gat gaa ttc tgc     2064
1361 Ile Asp Gln Val Ser Asn Leu Val Ala Cys Leu Ser Asp Glu Phe Cys
1362         675                   680                   685
1364 ttg gat gaa aag aga gaa tta ctt gag aaa gtg aaa tat gcg aaa cga     2112
1365 Leu Asp Glu Lys Arg Glu Leu Leu Glu Lys Val Lys Tyr Ala Lys Arg
1366     690                   695                   700
1368 ctc agt gat gaa aga aac tta ctc caa gat cca aac ttc aca tcc atc     2160
1369 Leu Ser Asp Glu Arg Asn Leu Leu Gln Asp Pro Asn Phe Thr Ser Ile
1370 705                   710                   715                   720
1372 aat aag caa cca gac ttc ata tct act aat gag caa tcg aat ttc aca     2208
1373 Asn Lys Gln Pro Asp Phe Ile Ser Thr Asn Glu Gln Ser Asn Phe Thr
1374                   725                   730                   735
1376 tct atc cat gaa caa tct gaa cat gga tgg tgg gga agt gag aac att     2256
1377 Ser Ile His Glu Gln Ser Glu His Gly Trp Trp Gly Ser Glu Asn Ile
1378                   740                   745                   750
1380 acc atc cag gaa gga aat gac gta ttt aaa gag aat tac gtc aca cta     2304
1381 Thr Ile Gln Glu Gly Asn Asp Val Phe Lys Glu Asn Tyr Val Thr Leu
1382             755                   760                   765
1384 ccg ggt act ttt aat gag tgt tat ccg acg tat tta tat caa aaa ata     2352
1385 Pro Gly Thr Phe Asn Glu Cys Tyr Pro Thr Tyr Leu Tyr Gln Lys Ile
1386         770                   775                   780
1388 ggg gag tcg gaa tta aaa gct tat act cgc tac caa tta aga ggt tat     2400
1389 Gly Glu Ser Glu Leu Lys Ala Tyr Thr Arg Tyr Gln Leu Arg Gly Tyr
1390     785                   790                   795                   800
1392 att gaa gat agt caa gat tta gag ata tat ttg att cgt tat aat gcg     2448
```

RAW SEQUENCE LISTING   DATE: 07/21/2003
PATENT APPLICATION: US/09/661,016A   TIME: 14:07:37

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw


```
1393 Ile Glu Asp Ser Gln Asp Leu Glu Ile Tyr Leu Ile Arg Tyr Asn Ala
1394               805               810               815
1396 aaa cat gaa aca ttg gat gtt cca ggt acc gag tcc cta tgg ccg ctt    2496
1397 Lys His Glu Thr Leu Asp Val Pro Gly Thr Glu Ser Leu Trp Pro Leu
1398               820               825               830
1400 tca gtt gaa agc cca atc gga agg tgc gga gaa ccg aat cga tgc gca    2544
1401 Ser Val Glu Ser Pro Ile Gly Arg Cys Gly Glu Pro Asn Arg Cys Ala
1402               835               840               845
1404 cca cat ttt gaa tgg aat cct gat cta gat tgt tcc tgc aga gat gga    2592
1405 Pro His Phe Glu Trp Asn Pro Asp Leu Asp Cys Ser Cys Arg Asp Gly
1406               850               855               860
1408 gaa aaa tgt gcg cat cat tcc cat cat ttc tct ttg gat att gat gtt    2640
1409 Glu Lys Cys Ala His His Ser His His Phe Ser Leu Asp Ile Asp Val
1410 865               870               875               880
1411 gga tgc aca gac ttg cat gag aat cta ggc gtg tgg gtg gta ttc aag    2688
1412 Gly Cys Thr Asp Leu His Glu Asn Leu Gly Val Trp Val Val Phe Lys
1414               885               890               895
1416 att aag acg cag gaa ggt cat gca aga cta ggg aat ctg gaa ttt att    2736
1417 Ile Lys Thr Gln Glu Gly His Ala Arg Leu Gly Asn Leu Glu Phe Ile
1418               900               905               910
1420 gaa gag aaa cca tta tta gga gaa gca ctt tct cgt gtg aag agg gca    2784
1421 Glu Glu Lys Pro Leu Leu Gly Glu Ala Leu Ser Arg Val Lys Arg Ala
1422               915               920               925
1424 gag aaa aaa tgg aga gac aaa cgt gaa aaa cta caa ttg gaa aca aaa    2832
1425 Glu Lys Lys Trp Arg Asp Lys Arg Glu Lys Leu Gln Leu Glu Thr Lys
1426       930               935               940
1427 cga gta tat aca gag gca aaa gaa gct gtg gat gct tta ttc gta gat    2880
1429 Arg Val Tyr Thr Glu Ala Lys Glu Ala Val Asp Ala Leu Phe Val Asp
1430 945               950               955               960
1432 tct caa tat gat aga tta caa gcg gat aca aac atc ggc atg att cat    2928
1433 Ser Gln Tyr Asp Arg Leu Gln Ala Asp Thr Asn Ile Gly Met Ile His
1434               965               970               975
1436 gcg gca gat aaa ctt gtt cat cga att cga gag gcg tat ctt tca gaa    2976
1437 Ala Ala Asp Lys Leu Val His Arg Ile Arg Glu Ala Tyr Leu Ser Glu
1438               980               985               990
1440 tta cct gtt atc cca ggt gta aat  gcg gaa att ttt gaa  gaa tta gaa  3024
1441 Leu Pro Val Ile Pro Gly Val Asn  Ala Glu Ile Phe Glu  Glu Leu Glu
1442               995               1000               1005
1444 ggt cac  att atc act gca atc  tcc tta tac gat gcg  aga aat gtc     3069
1445 Gly His  Ile Ile Thr Ala Ile  Ser Leu Tyr Asp Ala  Arg Asn Val
1446       1010               1015               1020
1447 gtt aaa  aat ggt gat ttt aat  aat gga tta aca tgt  tgg aat gta     3114
1449 Val Lys  Asn Gly Asp Phe Asn  Asn Gly Leu Thr Cys  Trp Asn Val
1450       1025               1030               1035
1451 aaa ggg  cat gta gat gta caa  cag agc cat cat cgt  tct gac ctt     3159
1452 Lys Gly  His Val Asp Val Gln  Gln Ser His His Arg  Ser Asp Leu
1453       1040               1045               1050
1454 gtt atc  cca gaa tgg gaa gca  gaa gtg tca caa gca  gtt cgc gtc     3204
1457 Val Ile  Pro Glu Trp Glu Ala  Glu Val Ser Gln Ala  Val Arg Val
```

RAW SEQUENCE LISTING

```
1459    1055                    1060                    1065
1460 tgt ccg  ggg tgt ggc tat att  ctt cgt gtc aca gcg  tac aaa gag    3249
1461 Cys Pro  Gly Cys Gly Tyr Ile  Leu Arg Val Thr Ala  Tyr Lys Glu
1462    1070                    1075                    1080
1464 gga tat  gga gag ggc tgc gta  acg atc cat gaa atc  gag aac aat    3294
1465 Gly Tyr  Gly Glu Gly Cys Val  Thr Ile His Glu Ile  Glu Asn Asn
1466    1085                    1090                    1095
1467 aca gac  gaa cta aaa ttt aag  aac cgt gaa gaa gag  gaa gtg tat    3339
1468 Thr Asp  Glu Leu Lys Phe Lys  Asn Arg Glu Glu Glu  Glu Val Tyr
1470    1100                    1105                    1110
1471 cca acg  gat aca gga acg tgt  aat gat tat act gca  cac caa ggt    3384
1472 Pro Thr  Asp Thr Gly Thr Cys  Asn Asp Tyr Thr Ala  His Gln Gly
1474    1115                    1120                    1125
1476 aca gct  gga tgc gca gat gca  tgt aat tcc cgt aat  gct gga tat    3429
1477 Thr Ala  Gly Cys Ala Asp Ala  Cys Asn Ser Arg Asn  Ala Gly Tyr
1478    1130                    1135                    1140
1480 gag aat  gca tat gaa gtt gat  act aca gca tct gtt  aat tac aaa    3474
1481 Glu Asp  Ala Tyr Glu Val Asp  Thr Thr Ala Ser Val  Asn Tyr Lys
1482    1145                    1150                    1155
1484 ccg act  tat gaa gaa gaa acg  tat aca gat gta aga  aga gat aat    3519
1485 Pro Thr  Tyr Glu Glu Glu Thr  Tyr Thr Asp Val Arg  Arg Asp Asn
1486    1160                    1165                    1170
1488 cat tgt  gaa tat gac aga ggg  tat gtc aat tat cca  cca gta cca    3564
1489 His Cys  Glu Tyr Asp Arg Gly  Tyr Val Asn Tyr Pro  Pro Val Pro
1490    1175                    1180                    1185
1492 gct ggt  tat gtg aca aaa gaa  tta gaa tac ttc cca  gaa aca gat    3609
1493 Ala Gly  Tyr Val Thr Lys Glu  Leu Glu Tyr Phe Pro  Glu Thr Asp
1494    1190                    1195                    1200
1496 aca ata  tgg att gag att gga  gaa acg gaa gga aag  ttt att gta    3654
1497 Thr Val  Trp Ile Glu Ile Gly  Glu Thr Glu Gly Lys  Phe Ile Val
1498    1205                    1210                    1215
1500 gat agc  gtg gaa tta ctc ctc  atg gaa gaa tag              3687
1501 Asp Ser  Val Glu Leu Leu Leu  Met Glu Glu
1502    1220                    1225
1505 <210> SEQ ID NO: 2
1506 <211> LENGTH: 1226
1507 <212> TYPE: PRT
1508 <213> ORGANISM: Bacillus thuringiensis
```

E--> 1510 <400> SEQUENCE: 10

```
1512 Leu Thr Ser Asn Arg Lys Asn Glu Asn Glu Ile Ile Asn Ala Val Ser
1513  1                   5                   10                  15
1516 Asn His Ser Ala Gln Met Asp Leu Leu Pro Asp Ala Arg Ile Glu Asp
1517           20                  25                  30
1520 Ser Leu Cys Ile Ala Glu Gly Asn Asn Ile Asp Pro Phe Val Ser Ala
1521           35                  40                  45
1524 Ser Thr Val Gln Thr Gly Ile Asn Ile Ala Gly Arg Ile Leu Gly Val
1525           50                  55                  60
1528 Leu Gly Val Pro Phe Ala Gly Gln Leu Ala Ser Phe Tyr Ser Phe Leu
1529  65                  70                  75                  80
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/661,016A

Input Set : **A:\pto.amc.txt**
Output Set: **N:\CRF4\07212003\I661016A.raw**

```
1582 Val Gly Glu Leu Trp Pro Arg Gly Arg Asp Gln Trp Glu Ile Phe Leu
1583                 85                  90                  95
1586 Glu His Val Glu Gln Leu Ile Asn Gln Gln Ile Thr Glu Asn Ala Arg
1587            100                 105                 110
1590 Asn Thr Ala Leu Ala Arg Leu Gln Gly Leu Gly Asp Ser Phe Arg Ala
1591            115                 120                 125
1594 Tyr Gln Gln Ser Leu Glu Asp Trp Leu Glu Asn Arg Asp Asp Ala Arg
1595        130                 135                 140
1598 Thr Arg Ser Val Leu His Thr Gln Tyr Ile Ala Leu Glu Leu Asp Phe
1599 145                 150                 155                 160
1602 Leu Asn Ala Met Pro Leu Phe Ala Ile Arg Asn Gln Glu Val Pro Leu
1603                 165                 170                 175
1606 Leu Met Val Tyr Ala Gln Ala Ala Asn Leu His Leu Leu Leu Leu Arg
1607            180                 185                 190
1610 Asp Ala Ser Leu Phe Gly Ser Glu Phe Gly Leu Thr Ser Gln Glu Ile
1611            195                 200                 205
1614 Gln Arg Tyr Tyr Glu Arg Gln Val Glu Arg Thr Arg Asp Tyr Ser Asp
1615        210                 215                 220
1618 Tyr Cys Val Glu Trp Tyr Asn Thr Gly Leu Asn Ser Leu Arg Gly Thr
1619 225                 230                 235                 240
1622 Asn Ala Ala Ser Trp Val Arg Tyr Asn Gln Phe Arg Arg Asp Leu Thr
1623                 245                 250                 255
1626 Leu Gly Val Leu Asp Leu Val Ala Leu Phe Pro Ser Tyr Asp Thr Arg
1627            260                 265                 270
1630 Thr Tyr Pro Ile Asn Thr Ser Ala Gln Leu Thr Arg Glu Val Tyr Thr
1631            275                 280                 285
1634 Asp Ala Ile Gly Ala Thr Gly Val Asn Met Ala Ser Met Asn Trp Tyr
1635        290                 295                 300
1638 Asn Asn Asn Ala Pro Ser Phe Ser Ala Ile Glu Ala Ala Ala Ile Arg
1639 305                 310                 315                 320
1642 Ser Pro His Leu Leu Asp Phe Leu Glu Gln Leu Thr Ile Phe Ser Ala
1643                 325                 330                 335
1646 Ser Ser Arg Trp Ser Asn Thr Arg His Met Thr Tyr Trp Arg Gly His
1647            340                 345                 350
1650 Thr Ile Gln Ser Arg Pro Ile Gly Gly Gly Leu Asn Thr Ser Thr His
1651            355                 360                 365
1654 Gly Ala Thr Asn Thr Ser Ile Asn Pro Val Thr Leu Arg Phe Ala Ser
1655        370                 375                 380
1658 Arg Asp Val Tyr Arg Thr Glu Ser Tyr Ala Gly Val Leu Leu Trp Gly
1659 385                 390                 395                 400
1662 Ile Tyr Leu Glu Pro Ile His Gly Val Pro Thr Val Arg Phe Asn Phe
1663                 405                 410                 415
1666 Thr Asn Pro Gln Asn Ile Ser Asp Arg Gly Thr Ala Asn Tyr Ser Gln
1667            420                 425                 430
1670 Pro Tyr Glu Ser Pro Gly Leu Gln Leu Lys Asp Ser Glu Thr Glu Leu
1671        435                 440                 445
1674 Trp Pro Glu Thr Thr Glu Arg Pro Asn Tyr Glu Ser Tyr Ser His Arg
1675 450                 455                 460
1678 Leu Ser His Ile Gly Ile Ile Leu Gln Ser Arg Val Asn Val Pro Val
```

RAW SEQUENCE LISTING   DATE: 07/21/2003
PATENT APPLICATION: US/09/661,016A   TIME: 14:07:37

Input Set : **A:\pto.amc.txt**
Output Set: **N:\CRF4\07212003\I661016A.raw**

```
1629 465                     470                 475                 480
1632 Tyr Ser Trp Thr His Arg Ser Ala Asp Arg Thr Asn Thr Ile Gly Pro
1633                     485                 490                 495
1636 Asn Arg Ile Thr Gln Ile Pro Met Val Lys Ala Ser Glu Leu Pro Gln
1637             500                 515                 510
1640 Gly Thr Thr Val Val Arg Gly Pro Gly Phe Thr Gly Gly Asp Ile Leu
1641         515                 520                 525
1644 Arg Arg Thr Asn Thr Gly Gly Phe Gly Pro Ile Arg Val Thr Val Asn
1645         530                 535                 540
1648 Gly Pro Leu Thr Gln Arg Tyr Arg Ile Gly Phe Arg Tyr Ala Ser Thr
1649 545                 550                 555                 560
1652 Val Asp Phe Arg Phe Phe Val Ser Arg Gly Gly Thr Thr Val Asn Asn
1653                 565                 570                 575
1656 Phe Arg Phe Leu Arg Thr Met Asn Ser Gly Asp Glu Leu Lys Tyr Gly
1657             580                 585                 590
1660 Asn Phe Val Arg Arg Ala Phe Thr Thr Pro Phe Thr Phe Thr Gln Ile
1661         595                 600                 605
1664 Gln Asp Ile Ile Arg Thr Ser Ile Gln Gly Leu Ser Gly Asn Gly Glu
1665         610                 615                 620
1668 Val Tyr Ile Asp Lys Ile Glu Ile Ile Pro Val Thr Ala Thr Phe Glu
1669 625                 630                 635                 640
1672 Ala Glu Tyr Asp Leu Glu Arg Ala Gln Glu Ala Val Asn Ala Leu Phe
1673                 645                 650                 655
1676 Thr Asn Thr Asn Pro Arg Arg Leu Lys Thr Asp Val Thr Asp Tyr His
1677             660                 665                 670
1680 Ile Asp Gln Val Ser Asn Leu Val Ala Cys Leu Ser Asp Glu Phe Cys
1681         675                 680                 685
1684 Leu Asp Glu Lys Arg Glu Leu Leu Glu Lys Val Lys Tyr Ala Lys Arg
1685         690                 695                 700
1688 Leu Ser Asp Glu Arg Asn Leu Leu Gln Asp Pro Asn Phe Thr Ser Ile
1689 705                 710                 715                 720
1692 Asn Lys Gln Pro Asp Phe Ile Ser Thr Asn Glu Gln Ser Asn Phe Thr
1693                 725                 730                 735
1696 Ser Ile His Glu Gln Ser Glu His Gly Trp Trp Gly Ser Glu Asn Ile
1697             740                 745                 750
1700 Thr Ile Gln Glu Gly Asn Asp Val Phe Lys Glu Asn Tyr Val Thr Leu
1701         755                 760                 765
1704 Pro Gly Thr Phe Asn Glu Cys Tyr Pro Thr Tyr Leu Tyr Gln Lys Ile
1705         770                 775                 780
1708 Gly Glu Ser Glu Leu Lys Ala Tyr Thr Arg Tyr Gln Leu Arg Gly Tyr
1709 785                 790                 795                 800
1712 Ile Glu Asp Ser Gln Asp Leu Glu Ile Tyr Leu Ile Arg Tyr Asn Ala
1713             805                 810                 815
1716 Lys His Glu Thr Leu Asp Val Pro Gly Thr Glu Ser Leu Trp Pro Leu
1717             820                 825                 830
1720 Ser Val Glu Ser Pro Ile Gly Arg Cys Gly Glu Pro Asn Arg Cys Ala
1721         835                 840                 845
1724 Pro His Phe Glu Trp Asn Pro Asp Leu Asp Cys Ser Cys Arg Asp Gly
1725         850                 855                 860
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/661,016A

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\07212003\I661016A.raw

```
1729 Glu Lys Cys Ala His His Ser His His Phe Ser Leu Asp Ile Asp Val
1724 865                   870                   875                   880
1733 Gly Cys Thr Asp Leu His Glu Asn Leu Gly Val Trp Val Val Phe Lys
1734                 885                   890                   895
1736 Ile Lys Thr Gln Glu Gly His Ala Arg Leu Gly Asn Leu Glu Phe Ile
1737             900                   905                   910
1740 Glu Gln Lys Pro Leu Leu Gly Glu Ala Leu Ser Arg Val Lys Arg Ala
1741         915                   920                   925
1743 Glu Lys Lys Trp Arg Asp Lys Arg Glu Lys Leu Gln Leu Glu Thr Lys
1745         930                   935               940
1749 Arg Val Tyr Thr Glu Ala Lys Glu Ala Val Asp Ala Leu Phe Val Asp
1749 945               950                   955                   960
1751 Ser Gln Tyr Asp Arg Leu Gln Ala Asp Thr Asn Ile Gly Met Ile His
1752             965                   970                   975
1755 Ala Ala Asp Lys Leu Val His Arg Ile Arg Glu Ala Tyr Leu Ser Glu
1757             980                   985                   990
1760 Leu Pro Val Ile Pro Gly Val Asn Ala Glu Ile Phe Glu Glu Leu Glu
1761             995                   1000                  1005
1764 Gly His Ile Ile Thr Ala Ile Ser Leu Tyr Asp Ala Arg Asn Val
1765     1010              1015                  1020
1769 Val Lys Asn Gly Asp Phe Asn Asn Gly Leu Thr Cys Trp Asn Val
1769     1025              1030                  1035
1771 Lys Gly His Val Asp Val Gln Gln Ser His His Asn Ser Asp Leu
1773     1040              1045                  1050
1776 Val Ile Pro Glu Trp Glu Ala Glu Val Ser Gln Ala Val Arg Val
1777     1055              1060                  1065
1780 Cys Pro Gly Cys Gly Tyr Ile Leu Arg Val Thr Ala Tyr Lys Glu
1781     1070              1075                  1080
1784 Gly Tyr Gly Glu Gly Cys Val Thr Ile His Glu Ile Glu Asn Asn
1785     1085              1090                  1095
1789 Thr Asp Glu Leu Lys Phe Lys Asn Arg Glu Glu Glu Glu Val Tyr
1789     1100              1105                  1110
1791 Pro Thr Asp Thr Gly Thr Cys Asn Asp Tyr Thr Ala His Gln Gly
1793     1115              1120                  1125
1796 Thr Ala Gly Cys Ala Asp Ala Cys Asn Ser Arg Asn Ala Gly Tyr
1797     1130              1135                  1140
1800 Glu Asp Ala Tyr Glu Val Asp Thr Thr Ala Ser Val Asn Tyr Lys
1801     1145              1150                  1155
1804 Pro Thr Tyr Glu Glu Glu Thr Tyr Thr Asp Val Arg Arg Asp Asn
1805     1160              1165                  1170
1808 His Cys Glu Tyr Asp Arg Gly Tyr Val Asn Tyr Pro Pro Val Pro
1809     1175              1180                  1185
1812 Ala Gly Tyr Val Thr Lys Glu Leu Glu Tyr Phe Pro Glu Thr Asp
1813     1190              1195                  1200
1816 Thr Val Trp Ile Glu Ile Gly Glu Thr Glu Gly Lys Phe Ile Val
1817     1205              1210                  1215
1820 Asp Ser Val Glu Leu Leu Leu Met Glu Glu
1821     1220              1225
```

VERIFICATION SUMMARY
PATENT APPLICATION: **US/09/661,016A**

DATE: 07/21/2003
TIME: 14:07:38

Input Set : **A:\pto.amc.txt**
Output Set: **N:\CRF4\07212003\I661016A.raw**

L:13 M:283 W: Missing Blank Line separator, <140> field identifier
L:13 M:270 C: Current Application Number differs, Replaced Current Application Number
L:15 M:37. C: Current Filing Date differs, Replaced Current Filing Date
L:592 M:3 2 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:6
M:332 Repeated in SeqNo=6
L:943 M:3 6 W: Invalid Amino Acid Number in Coding Region, SEQ ID:7
L:1149 M:43.2 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:8
M:332 Repeated in SeqNo=8
L:1182 M:21.2 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 1
L:1191 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQUENCE ID NOS:1 differs:9
L:1510 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQUENCE ID NOS:2 differs:10
L:23 M:203 E: No. of Seq. differs, <160> Number Of Sequences:Input (8) Counted (10)